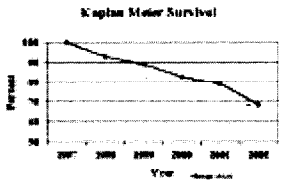
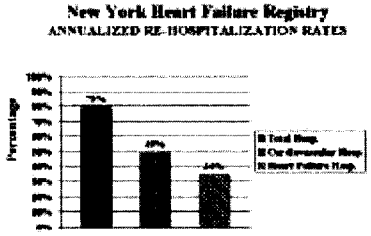
rates for HF (34%) is consistent with that generally reported in NYHA Class II-III systolic dysfunction heart failure.





1136-81 **Evolution of Left Ventricular Filling Pattern Among American Indians: The Strong Heart Study**

Felizen S. Agno, Jennifer E. Liu, Marcello Chinali, Dawn Fishman, Jonathan N. Bella, James Galloway, Elisa T. Lee, Lyle Best, Richard B. Devereux, Weill Medical College of Cornell University, New York, NY

Background: Relations of left ventricular (LV) diastolic filling patterns to hypertension and overweight have been extensively examined in cross-sectional studies but there are few data on long-term evolution of LV filling parameters in population-based samples.
Methods: LV filling parameters were measured by Doppler echocardiography 7.2±0.7 years apart in 247 American Indian participants (69% women, 58±7 years of age at baseline evaluation) in the population-based Strong Heart Study.
Results: Between examinations, there were no significant changes in the systolic blood pressure (from 135±18 to 137±19mmHg, NS) and body mass index (both=32±6 kg/m^2, NS). LV mass increased from 153±36 to 168±38 g with decreases in LV fractional shortening (35±5 to 33± 6%, both p<0.001) and LV midwall shortening (17.6±2.3 to 17.1±2.3%, p=0.001). In parallel, there were decreases in the peak E wave velocity (59±16 to 50±13 cm/sec), peak A wave velocity (71±16 to 66±14 cm/sec) and the E/A ratio of transmitral flow (0.87±0.27 to 0.78±0.21, all p<0.001) accompanied by an increased prevalence of E/A ratio below a prognostically-validated partition value of 0.60 (14.6% to 17.4%, p<0.02). The decline between examinations in the mitral E/A ratio was related to older age at baseline evaluation (r=0.19, p=0.002) and lesser decrease in ejection fraction (r=-0.18, p=0.007) but not to gender or change in body mass index or systolic pressure. In multiple regression analysis, the decline in mitral E/A ratio was greater with higher initial age (p=0.01) and less with decline in LV ejection fraction (p=0.026) but was unrelated to temporal change in arterial pressure, LV mass, or body mass index.
Conclusions: In a population-based sample of middle-aged and elderly adults, a 7-year follow-up of LV filling pattern among 247 American Indians participants showed that there was significant increase in the prevalence of transmitral E/A ratio below a prognostically-validated partition value. The decline between examinations in the mitral E/A ratio was related to older age at baseline evaluation and less with decline in ejection fraction and was unrelated to temporal change in arterial pressure, gender difference, LV mass, or body mass index.

1136-82 **Evidence of Impaired Left Atrial Function Response to Exercise in Hypertrophic Cardiomyopathy Patients With Heart Failure**

Cinzia Cianfrocca, Francesco Pelliccia, Antonio Auriti, Furio Colivicchi, Antonino Granatelli, Giuseppe Richichi, Massimo Santini, San Filippo Neri Hospital, Rome, Italy

Background: Studies on determinants of symptoms of heart failure (HF) in pts with hypertrophic cardiomyopathy (HC) have focused mainly on LV systolic and/or diastolic dysfunction, whereas the pathophysiologic role of left atrial (LA) dynamics has been poorly investigated. To address this issue, we investigated the LA systolic function at rest and on exercise in a subset of HC pts with mild HF.
Methods: Fifteen HC pts in NYHA class II (Gr.A; age: 47±11 yrs) and 15 sex- and age-matched HC pts without symptoms of HF (Gr.B; age: 49±12 yrs) were studied. All pts underwent, off-drug, a symptom-limited supine bicycle exercise test (25 watt/2 mins). Doppler echocardiography was performed at baseline and at peak exercise. Indexes of LA morphology and function were derived from the apical 4- and 2-chamber views.
Results: At baseline, the 2 groups exhibited similar LV morphology (i.e. maximal wall thickness and diameters), LV ejection fraction (55±11 vs 63±9%, NS), and Doppler measures of LV diastolic performance, i.e. E-peak (45±17 vs 49±19 cm/s, NS) and A-peak (66±16 vs 61±15 cm/s, NS). Also, they had similar LA maximal volume (77±17 vs 71±21 cm^3), LA stroke volume (11±8 vs 12±8 cm^3), and LA emptying fraction (18±9 vs 25±10%). Exercise time was 441±220 s in Gr.A and 566±297 s in Gr.B. On exercise, LV ejection fraction did not change in Gr.A (-2±10%) but increased in Gr.B (+10±10%, p<0.05). No significant change with exercise in LA stroke volume (+4±6 cm^3) and LA emptying fraction (+2±6) were seen in Gr.A. On the opposite, Gr.B showed an increase with exercise in LA stroke volume (+9±8 cm^3, p<0.01), and LA emptying fraction (+15±10%, p<0.01). Comparison of Doppler indexes of LV filling in Gr.A showed no change with exercise in E-peak (-7±10 cm/s) and A-peak (+5±10 cm/s). In Gr.B, conversely, there were on exercise a slight increase in E-peak (+19±15 cm/s) and a significant augmentation in A-peak (+35±19 cm/s, p<0.01).
Conclusion: Along with LV dynamic abnormalities, an impaired LA function response to exercise plays a pathophysiologic role in determining symptoms of mild HF in HC. These findings provide evidence that the LA myocardium is involved by the myopathic process in a subset of pts with HC.

1136-83 **100 Patients Supported for Over One Year on an Implanted Left Ventricular Assist Device**

R. Hetzer, R. Koerfer, M. Vigano, M. Pasque, R. Kormos, P. Portner, Toty Mussivand on behalf of the Novacor LVAS Investigators, University of Ottawa Heart Institute, Ottawa, ON, Canada

Background: The use of mechanical circulatory support (MCS) devices during the bridge to transplant experience can provide clinical insight into the potential use of these devices for long-term support or "Destination Therapy". A review of the outcomes of first 100 end-stage heart failure patients supported for greater than 1 year with an implanted left ventricular assist device (Novacor LVAS) was conducted. **Methods:** Utilizing data from the international registry, the patient characteristics and outcomes of 100 patients supported for > 1 year at 40 international centres were analyzed. **Results:** The patients were 90% male with a mean age of 47 years (16-72 years). The disease etiology was cardiomyopathy in 63%, ischemic heart disease in 26% and other in 10%. The intent to treat was as follows: 92% as a bridge to transplant, 4% as a bridge to recovery (Europe) and 4% as an alternative to transplant. Mean support duration on the device was 1.7 years (370-1514 days) and 22 patients were supported over 2 years, 8 over 3 years and 3 over 4 years. Outcomes were favorable (either ongoing, transplanted or weaned) for 78% of patients. Subsequent analysis of patients supported over 6 months and 1, 2, & 3 years respectively, yielded similar outcomes at each time interval. There were no deaths related to device failure and the majority of patients were able to return home to near normal activities.**Conclusions:** 1) A significant majority (78%) of these end-stage heart failure patients had favorable outcomes and extension of life. 2) Improved quality of life was demonstrated with the majority of patients discharged from hospital. 3) Overall device safety has been demonstrated with no patient deaths due to device failure, and 4) Long-term device durability has been demonstrated with patients supported for over 4 years on a single device. These findings provide clear evidence that mechanical circulatory support could potentially provide substantial clinical benefits during long-term support or "Destination Therapy".
* Due to space limitations only investigators with more than 5 patients supported over 1 year are listed.

POSTER SESSION

1137 Cardiac Transplantation: Clinical

Monday, March 31, 2003, 3:00 p.m.-5:00 p.m.
McCormick Place, Hall A
Presentation Hour: 4:00 p.m.-5:00 p.m.

1137-62 **Expanding the Donor Pool: Acceptable Recipient Outcomes With the Use of Hearts From Donors With Hepatitis B Core Antibody Positivity or Intracranial Tumors**

Sean P. Pinney, Faisal H. Cheema, Kim Marie Hammond, Jonathan Chen, Niloo M. Edwards, Donna Mancini, Columbia University, New York, NY

Background: The shortage of available donors limits cardiac transplantation. Transplantation of hearts from marginal donors could expand the donor pool if accompanied by good recipient outcomes. Donor hearts from patients with hepatitis B core antibodies (HBcAb) have not been used due to concern about virus transmission. Similarly, donors with malignant brain tumors have also been excluded. We conducted a retrospective review to determine the success of transplanting hearts from donors who were HBcAb+ or had an intracranial tumor. Methods: We reviewed donor and recipient charts for patients transplanted at our center between January 1, 1997 and September 1, 2002. Results: Of 514 heart transplants performed in this time period, 46 (8.9%) used hearts from these marginal donors. Fourteen patients (age 56±11 years) received hearts from donors with an intracranial tumor (age 40±9.6 years) including 6 glioblastoma multiforme, 2 anaplastic astrocytoma, 1 astrocytoma, 1 medulloblastoma, 1 pineal tumor, 1 meningioma and 2 not specified. At 23±10 months of follow-up, no patient had clinical or radiologic evidence of tumor transmission. Thirty-two patients (age 46.9±18.7 years) received hearts from HBcAb+ donors (age 37.5±11.0 years). One patient (baseline HBSAg-) developed donor-transmitted HBV infection 10 months post-transplant that was successfully treated with lamivudine. Two patients (baseline HBSAb-) had HBV seroconversion (HBSAb+) without evidence of HBV infection. Six patients were HBSAb+ pre-transplant and four patients (HBSAb-) received prophylactic lamivudine post-transplant. None of these patients developed donor-transmitted hepatitis; one lamivudine-treated patient